

METHOD AND APPARATUS OF AUTOMATIC POWER MANAGEMENT
CONTROL FOR SERIAL ATA INTERFACE

ABSTRACT

The present invention is directed to a method and apparatus of automatic power management control for Serial ATA interface. In an exemplary aspect of the present invention, an idle or active condition of Serial ATA interface is automatically detected. When Serial ATA is in an idle condition, idle time of Serial ATA interface is counted using a power down counter whose frequency is determined by a programmable register based on input clock. When a power down counter value is equal to a first value, a request for a Partial power state is asserted, and Serial ATA interface is put into a Partial power state. When a power down counter value is equal to a second value, a request for a Slumber power state is asserted, and Serial ATA interface is put into a Slumber power state.